IN THE CLAIMS

Please amend the claims as follows:

1-45. (Canceled)

46. (Previously Presented) A method, comprising:

sensing a first cardiac complex of a heart contraction at a first cardiac region of a patient;

sensing a second cardiac complex, associated with the same heart contraction as the first cardiac complex, at a second cardiac region of said patient;

selecting a first fiducial feature of the first cardiac complex;

selecting a second fiducial feature of the second cardiac complex;

determining a time difference between the first and second fiducial features;

comparing the time difference to a template time difference between the first and second fiducial features obtained from said patient during normal sinus rhythm; and

if the time difference differs from the template time difference by at least a predetermined margin, characterizing the first and second signals as arrhythmic.

47. (Previously Presented) The method of claim 46, further including:

if the time difference exceeds the template time difference by at least a predetermined margin, characterizing the heart contraction as a tachycardia heart contraction;

determining a percentage of tachycardia heart contractions in a plurality of heart contractions; and

when the percentage of tachycardia heart contractions exceeds a threshold, delivering therapy for treating the tachycardia.

48. (Previously Presented) The method of claim 46, wherein the first and second fiducial features include at least one of:

a predetermined signal deviation from a baseline representing a beginning of the cardiac complex;

a maximum deflection of the cardiac complex;

a signal return to the baseline within a predetermined time window from the beginning of the cardiac complex, the signal return representing an end of the cardiac complex; and

a maximum slope portion of the cardiac complex.

4 ~~49~~. (Previously Presented) The method of claim 1 ~~46~~, wherein the template time difference is obtained from said patient using the time differences determined for a plurality of heart contractions during normal sinus rhythm.

5 ~~50~~. (Currently Amended) A method, comprising:

sensing a first cardiac complex at a first cardiac region during a cardiac cycle of a patient;

sensing a second cardiac complex at a second cardiac region during the cardiac cycle;

selecting a first fiducial feature of the first cardiac complex;

selecting a second fiducial feature of the second cardiac complex;

determining a first amplitude for the first fiducial feature relative to a baseline of the first cardiac complex;

determining a second amplitude for the second fiducial feature relative a baseline of the second cardiac complex;

comparing the first and second amplitudes to respective first and second thresholds obtained from said patient during normal sinus rhythm; and

characterizing whether the first and second cardiac complexes are arrhythmic using the results of the comparison.

6 ~~51~~. (Previously Presented) The method of claim 5 ~~50~~, further comprising:

determining the first threshold using a statistical value obtained from the first amplitudes over a plurality of cardiac cycles during normal sinus rhythm; and

determining the second threshold using a statistical value obtained from the second amplitudes over a plurality of cardiac cycles during normal sinus rhythm.

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52. (Previously Presented) The method of claim 50, wherein the characterizing includes:

if the first amplitude differs from the first threshold by at least a predetermined amount, characterizing the cardiac complex as arrhythmic; and

if the second amplitude differs from the second threshold by at least the predetermined amount, characterizing the cardiac complex as arrhythmic.

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53. (Previously Presented) The method of claim 50, wherein the first and second fiducial features include at least one of:

a predetermined signal deviation from a baseline representing a beginning of a cardiac complex;

a maximum deflection of a cardiac complex;

a signal return to the baseline within a predetermined time window from the beginning of a cardiac complex, the signal return representing an end of the cardiac complex; and

a maximum slope portion of a cardiac complex.

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54. (Currently Amended) A method, comprising:

sensing a first cardiac complex at a first cardiac region of a patient during a cardiac cycle;

sensing a second cardiac complex, associated with the same heart contraction as the first cardiac complex, at a second cardiac region during the cardiac cycle;

determining a first slope of a portion of the first cardiac complex;

determining a second slope of a portion of the second cardiac complex;

comparing the first slope to a first threshold slope and comparing the second slope to a second threshold slope, the first and second threshold slopes obtained from said patient during normal sinus rhythm; and

characterizing whether the first and the second signals are arrhythmic using the results of the comparison.

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55. (Previously Presented) The method of claim 54, wherein the first slope is a maximum slope along the first cardiac complex during the cardiac cycle, and the second slope is the maximum slope along the second cardiac complex during the cardiac cycle.

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56. (Previously Presented) The method of claim 54, wherein the first slope is taken along a predetermined first major inflection of the first cardiac complex, and the second slope is taken at a substantially identical predetermined first major inflection of the second cardiac complex.

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57. (Previously Presented) The method of claim 54, further comprising:

determining the first threshold slope over a plurality of cardiac cycles during normal sinus rhythm; and

determining the second threshold slope over a plurality of cardiac cycles during normal sinus rhythm.

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58. (Previously Presented) The method of claim 54, wherein the characterizing includes:

if the first slope differs from the first threshold slope by at least a predetermined amount, characterizing the cardiac complex as arrhythmic; and

if the second slope differs from the second threshold slope by at least the predetermined amount, characterizing the cardiac complex as arrhythmic.

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59. (Currently Amended) A system, comprising:

a control system including first and second inputs to monitor respective first and second signals, each including the same cardiac complex detected at different cardiac locations of a patient;

a morphology analyzer coupled to the control system, the morphology analyzer adapted to locate a first fiducial feature of a first cardiac complex on the first signal and a second fiducial feature of a second cardiac complex on the second signal, the first and second fiducial features associated with the same heart contraction;

a signal feature comparison circuit coupled to the morphology analyzer, the signal feature comparison circuit adapted to compare at least one characteristic of at least one of the first and second fiducial features to a template quantity obtained from said patient that is representative of a normal sinus rhythm complex; and

wherein the control system designates the cardiac complex as arrhythmic when the at least one characteristic differs from the corresponding template time difference by at least a predetermined margin.

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~~60~~. (Previously Presented) The system of claim ~~59~~, wherein the morphology analyzer includes a characteristic quantity generator, coupled to the signal feature comparison circuit, configured to generate at least one of:

a time difference between the first and second fiducial features;

a first amplitude of the first fiducial feature;

a second amplitude of the second fiducial feature;

a first slope associated with the first signal; and

a second slope associated with the second signal.

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~~61~~. (Previously Presented) The system of claim ~~59~~, wherein the morphology analyzer includes an amplitude detector adapted to detect at least one of the first and second fiducial features, and wherein the at least one of the first and second fiducial features includes at least one of:

a signal deviation from a baseline;

a maximum signal deflection;

a signal return to the baseline; and

a predetermined major signal inflection.

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~~62~~. (Previously Presented) The system of claim ~~61~~, wherein the morphology analyzer further includes a timer adapted to determine at least one time of detection of the at least one of the first and second fiducial features.

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~~63~~. (Previously Presented) The system of claim ~~60~~, further including a template generator, coupled to the signal feature comparison circuit, the template generator adapted to generate the template time differences over a plurality of cardiac complexes obtained from the patient during normal sinus rhythm.

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